

# 25–2 Plant Responses



# Tropisms

The responses of plants to external stimuli are called **tropisms**.

**Plant tropisms include:**

- **Gravitropism,**
- **Phototropism**
- **Thigmotropism.**



**-Gravitropism**: Response to gravity

-Causes new shoots to grow up and roots to grow down into the soil.

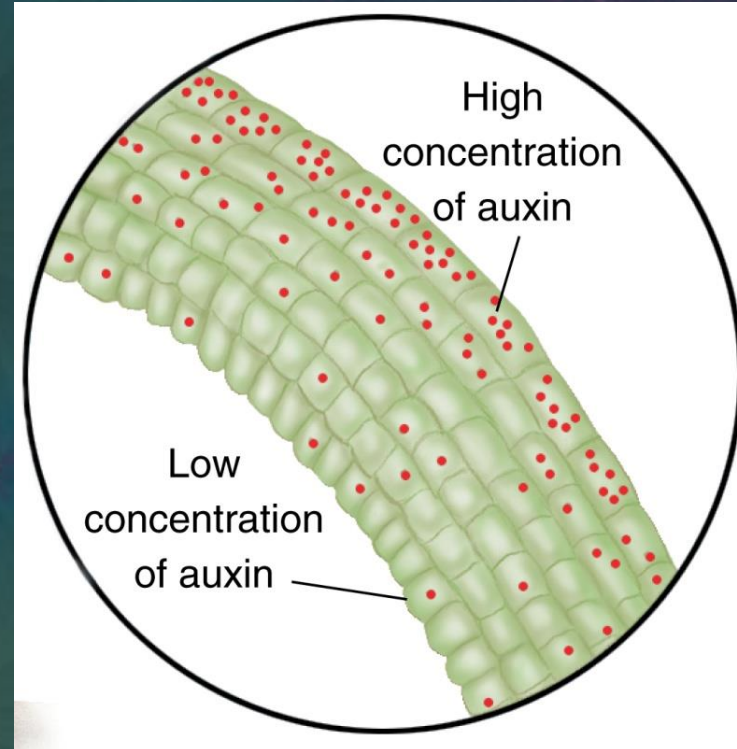
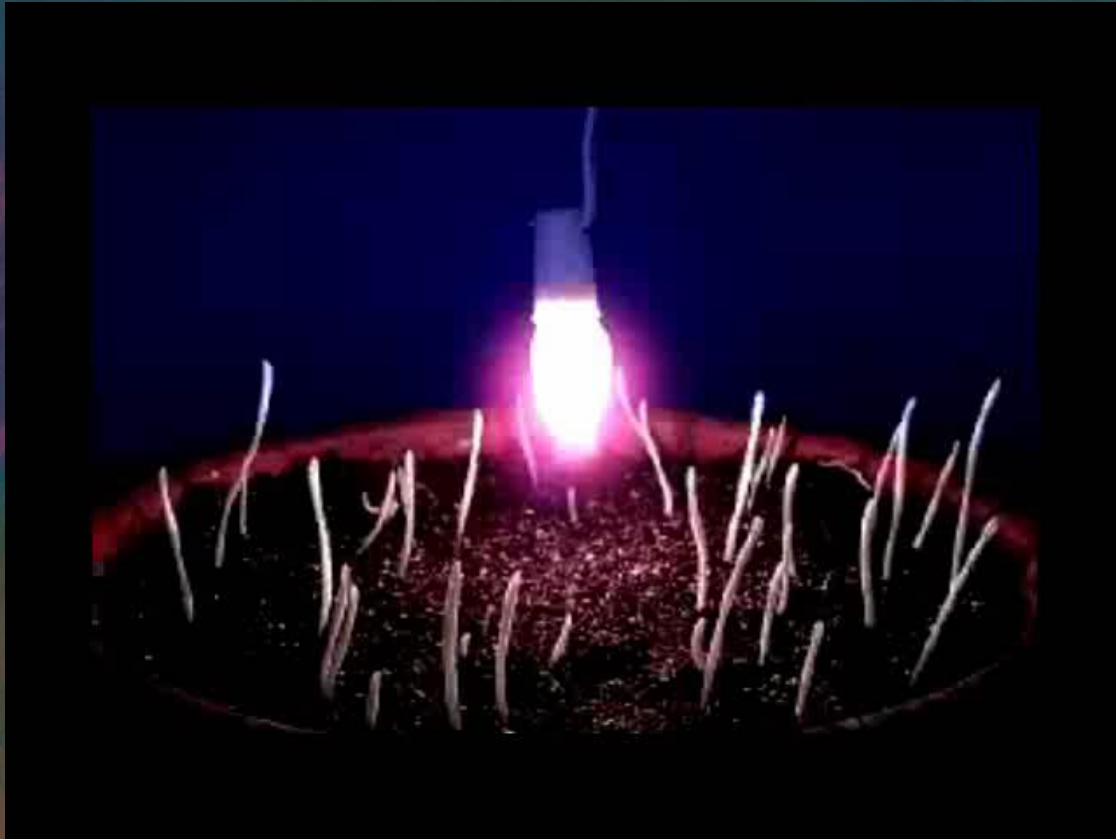


- **Phototropism**: Response to light

- Causes stems to bend towards light

- \*stimulates cell elongation

- \*light hits part of stem, auxins produce cell elongation on the dark side of stem, so stem bends toward the light.



- **Thigmotropism**: Response to touch
  - grows around (vines) or stunts growth

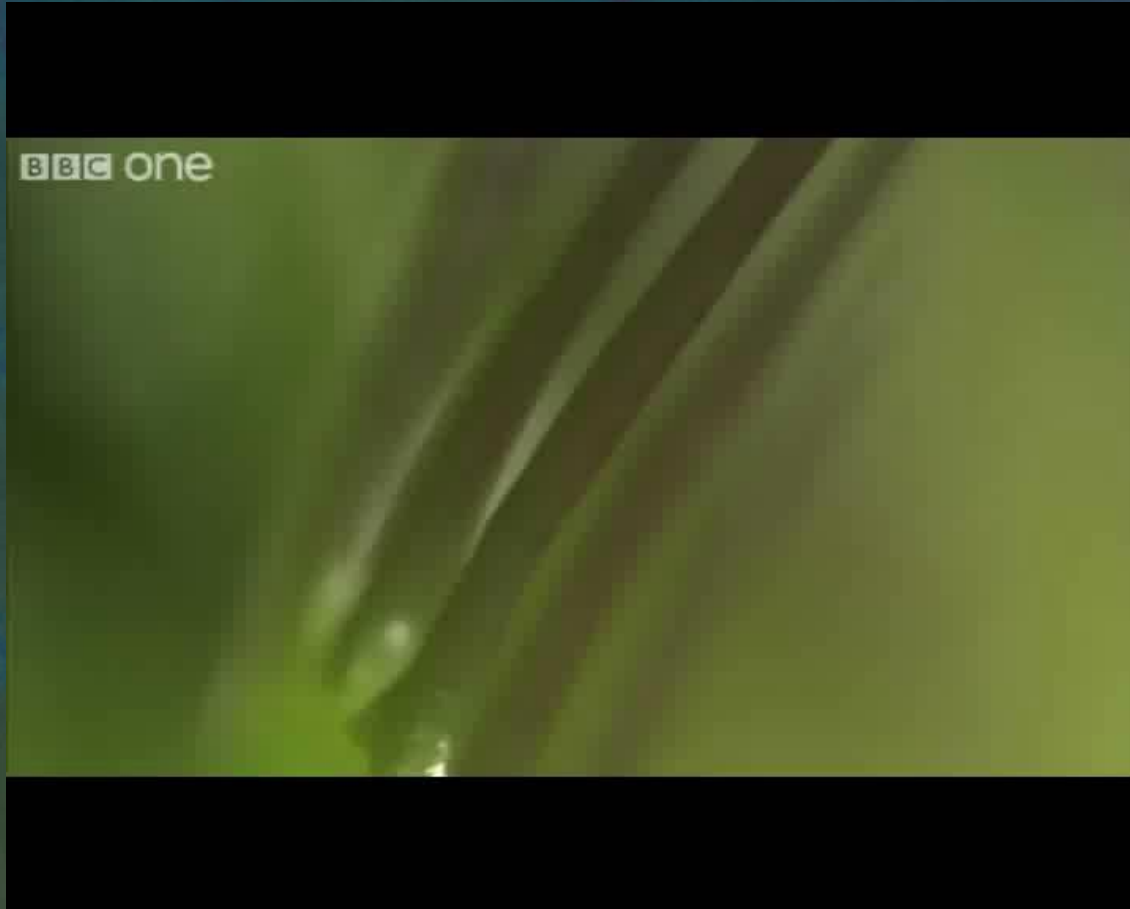




# Rapid Responses

- Not all plant responses involve growth.
- One example is the rapid closing of leaflets that occurs in the *Mimosa pudica*.
- If you touch the leaves of a mimosa plant, within seconds, the leaves snap shut.





Another example of a **rapid response** is Venus's flytrap. The trap closes very rapidly when an insect comes into contact with sensitive hairs inside the traps.